

# Source Assessment Reports



Drinking Water Source Protection Program

# Why Source Water Assessments?

---

- Water suppliers and municipalities
  - Evaluate threats
  - Evaluate current protection efforts
  - Set protection priorities
  - Improve source protection
- Public
  - Understand need for protection
- DES and USEPA
  - Improve protection programs

# Assessment Steps

---

- Delineate
  - Wellhead Protection Areas
  - Watersheds, HACs
- Inventory
- Prepare Assessment
- Disseminate and Follow Up



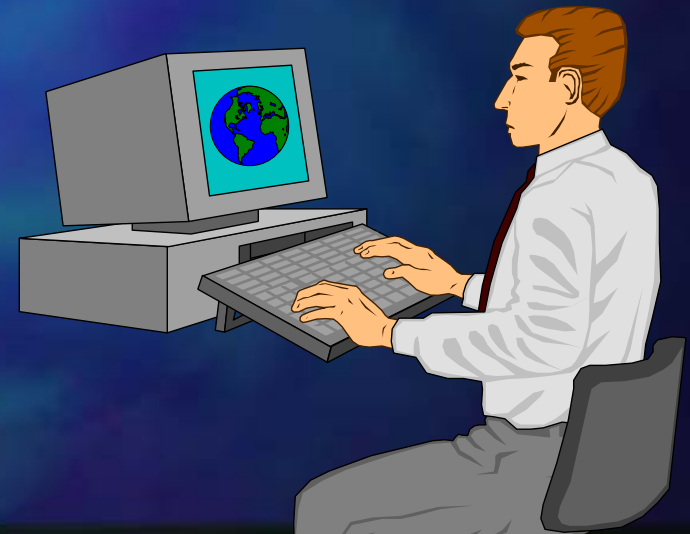
# DWSAP Land Use Inventories

---

- DES Geographic Information System
  - Wellhead protection areas
  - Water supply watersheds
- On-the-ground surveys
  - 500' radius (Transient systems)
  - Wellhead protection areas
  - Selected watershed segments  
"Hydrologic Areas of Concern"

# Geographic Information System as used in Source Assessments

- Known sources of contamination  
(Superfund, LUST, spill sites)
- Highways and railroads
- Pesticide application areas
- Sewer lines
- Urban land cover
- Agricultural land cover



# Windshield Surveys



## ■ Potential VOC/SOC

- Storage tanks
- Concrete, asphalt
- Auto dealerships
- Cemeteries
- Cleaning facility
- Construction sites
- Earthmoving
- Food processing
- Service & repair
- Junkyards
- Haz waste generators

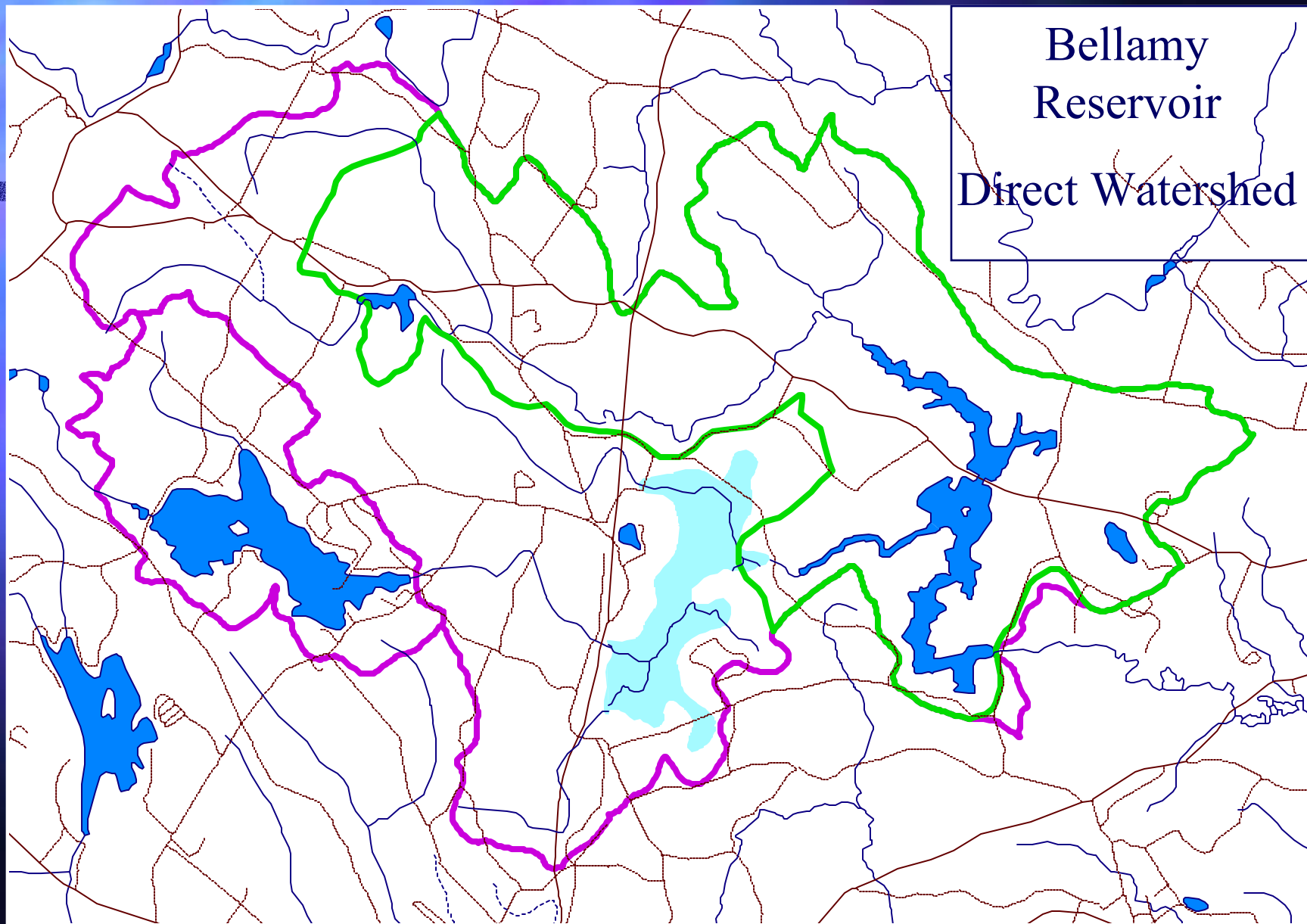
## ■ VOC/SOC continued

- Sludge piles, lagoons
- Spray irrigation
- Laboratories
- Lined landfills
- Wastewater lagoons
- Manufacturing
- Metal-working
- Infiltration basins
- Septic systems
- Dense development
- Animal farms

# Hydrologic Areas of Concern for Windshield Surveys

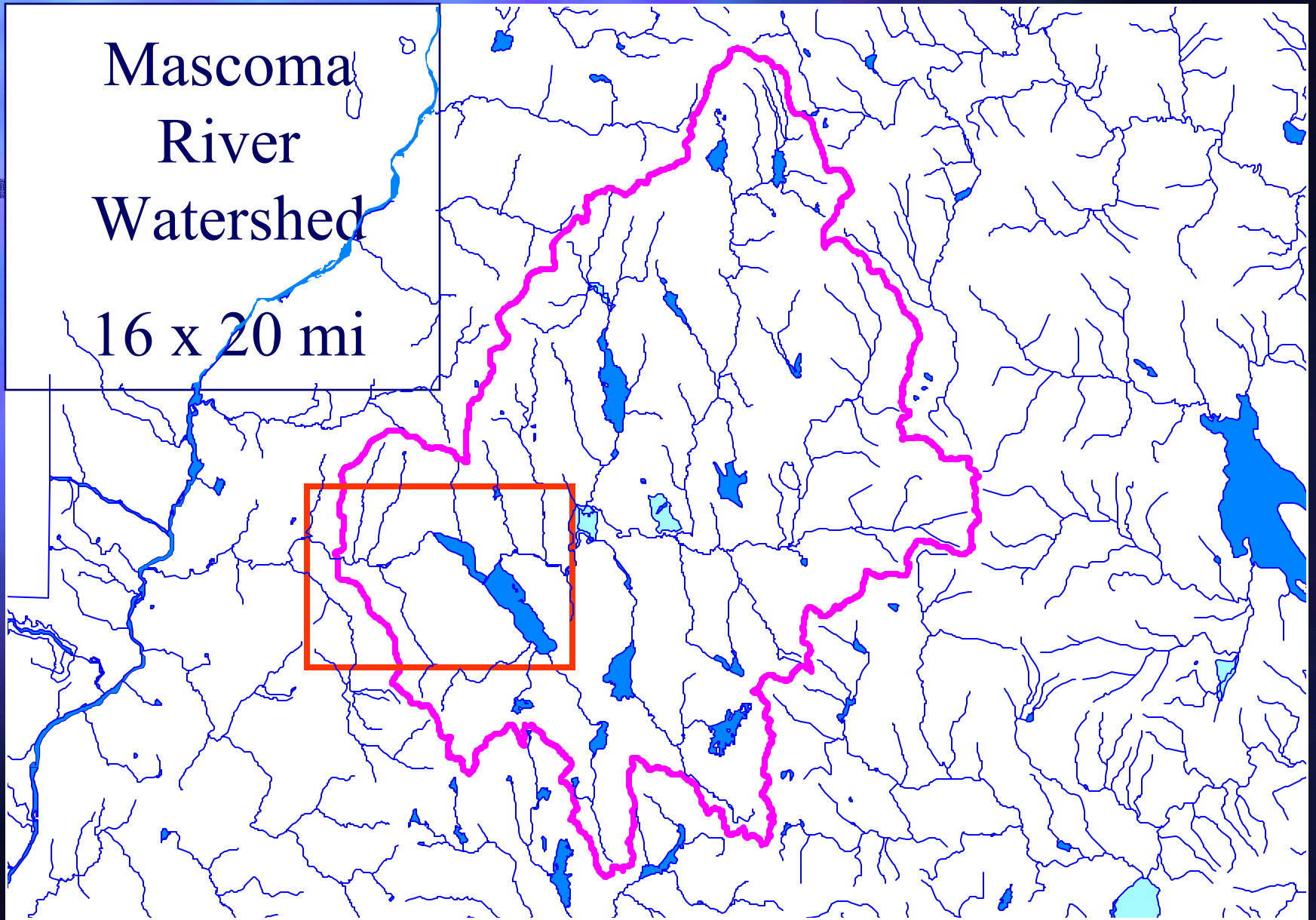


Type of Watershed	Hydrologic Area of Concern
Small or undeveloped	Entire watershed
Large lake, etc.	Direct watershed
Large river	6-hour travel zone
Special studies	Case-specific

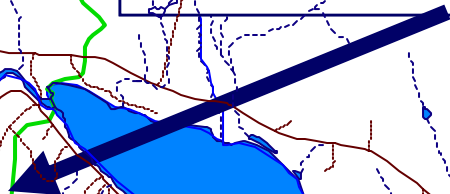


# Mascoma River Watershed

16 x 20 mi



Mascoma River  
Hydrologic Area of Concern



# DES-USGS Dye Tracer Studies

---

Peak Concentration

Time to Peak Concentration

Time to Leading Edge

Time to Trailing Edge

# Source Assessment Reports

Map of protection area

Inventory of potential  
contamination sources

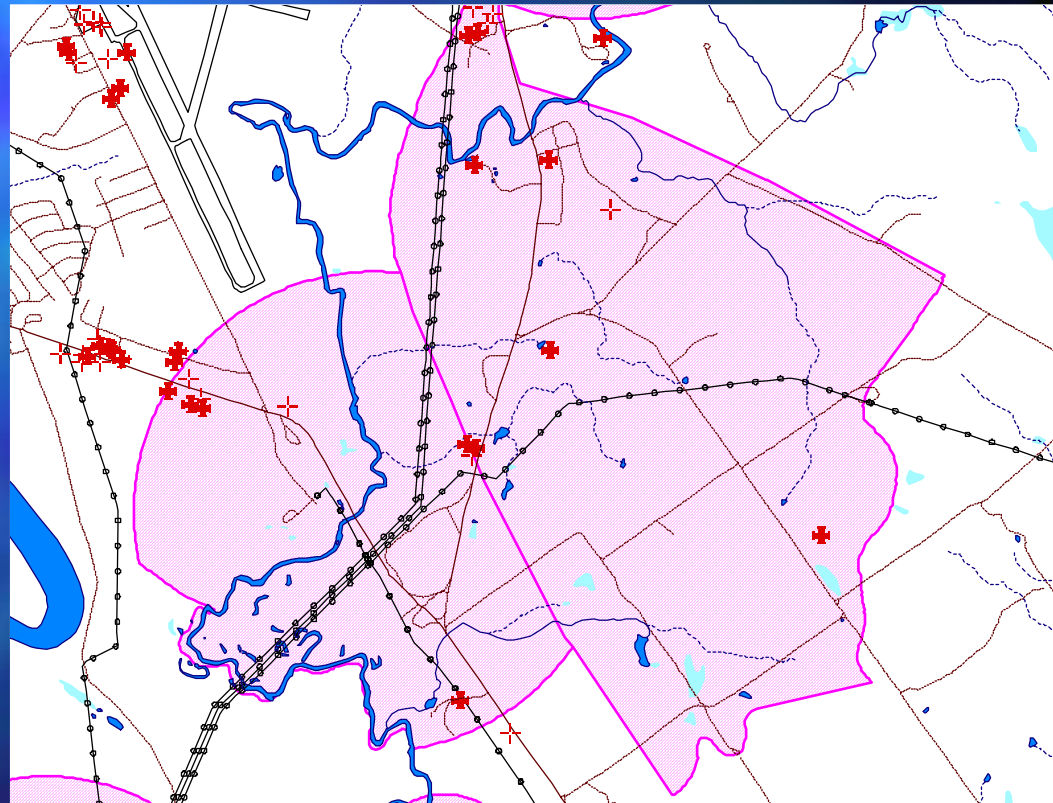
Vulnerability ratings

Protection measures



Water supplier

Planning board





### Attachment A: Key to Land Use Codes and Description of Risk for Source Water Hazard Inventory Sites

Land Use	Code	K/P*	Potential Risks
Farms with $\geq 10$ animal units outdoors or with outdoor manure storage for that number of animals	ANIMAL	P	A potentially significant source of pathogens and nutrients. Cryptosporidium is particularly problematic. Subject to NH Department of Agriculture regulations, enforced on a complaint basis.* Note - many farms are not in GIS.
Aboveground storage tank facilities	AST	P	Contain toxic chemicals or oil products capable of contaminating surface or groundwater if released. Releases may occur when transferring product, through accidental damage, or due to lack of maintenance. Regulated by DES.
Superfund Site	CERCLA	K	Is known to contain toxic chemicals or oil products that have contaminated water bodies or groundwater. Clean-up regulated by DES and EPA.
Cemeteries	CEMETERY	P	Use of herbicides is a concern; herbicide use by commercial applicators is regulated by the Department of Agriculture and not by DES.
Leaking bulk storage facilities containing fuel oil	FUEL	K	Is known to have leaked fuel oil (VOCs). Clean up regulated by DES.
Sites which have groundwater release detection permits and no other defined project type	GW RELDDET	P	Groundwater Release Detection Permits issued by DES and monitoring conducted by operator to detect any releases to groundwater that may occur, e.g., lined lagoons, and lined landfills.
Hazardous waste project	HAZWASTE	P	Contain toxic chemicals or oil products that have at some point contaminated or increased contaminant levels in groundwater. Clean-up regulated by DES.
Non-hazardous, non-sanitary holding tank registration	HOLD TANK	P	Registered with DES. If used improperly, could contain toxic chemicals or oil products capable of contaminating surface or groundwater if released.
Junkyards	JUNKYARD	P	May contain toxic chemicals or oil products that could contaminate water bodies or groundwater, for example, from improper disposal of fluids from automobile or chemical tanks. Not regulated by DES.

## Part 3

## Wellhead Protection Area Characteristics

This part of the assessment describes the susceptibility of this source with respect to a number of factors evaluated by DES.

**System Name:** MERRYMEETING MOBILE HOME PARK

Part 3 - Page 1

**Source:** BRW 1, 800' W OF OFFICE

**Source ID#:** 0063020 - 001

Susceptibility Factor	Susceptibility			Comments
	LOW	MEDIUM	HIGH	
1. Confirmed contaminant detects of concern in source water.	No current detects from anthropogenic sources (e.g. VOC, SOC, or metals) <input checked="" type="checkbox"/>	<i>No medium criterion - source will rank either low or high for this concern.</i>	Current detects from anthropogenic sources (e.g. VOC, SOC, or metals) <input type="checkbox"/>	Does not include naturally occurring substances.
2. Well integrity.	No unresolved problems noted during sanitary survey. <input checked="" type="checkbox"/>	<i>No medium criterion - source will rank either low or high for this concern.</i>	Problems noted and remain since last sanitary survey. <input type="checkbox"/>	Problems would include insufficient sanitary seal, drainage problems, or violations of the sanitary radius.
3. Sanitary radius (75' to 400' from well).	Free from development except that associated with the well. <input checked="" type="checkbox"/>	Development other than that associated with the well but no sewer line, septic system, or regulated substance storage. <input type="checkbox"/>	Sewer line(s), septic system(s), or regulated substance storage other than that associated with the well. <input type="checkbox"/>	Development within the sanitary radius can contaminate sources. Potential contamination sources close to the well allow little time to react to a release.

# Typical Source Water Protection Measures

Source Water Protection Measures	Comments
Education	Education programs for business owners, school-aged children and the general public should always be a part of a local Source Protection program. Many materials are available for this purpose.
Land Acquisition	Provides absolute control of land usage. Currently loan and grant money and technical assistance from the federal and state government are available for land acquisition purposes. Water supply land conservation easements may also be used with less cost than outright purchase. Model easements were developed by the Society for Protection of New Hampshire Forests and are available through NHDES. Buffers may also be set aside by developers if the Planning Board knows protection needs.
Zoning	Zoning regulations may be modified to prohibit or restrict new potential contamination sources from locating in a wellhead protection area (WHPA). This is important for preventing serious impacts to water quality from future development. This should be coupled with other measures if the protection area already contains grand fathered potential contamination sources.
Subdivision and Site Plan Review	Subdivision and site plan review provide opportunities to address water supply concerns at the initial stage of development. These regulations may also be modified to set design and/or performance standards for new developments.
	Water suppliers and municipalities can conduct inspection or visitation programs to ensure compliance with Best Management Practices (BMPs) for the storage and handling of regulated substances. These programs can rely on voluntary participation of

# Assessments of Public Water Supply Sources - BOW

Please see last 2  
pages of report for  
explanation.

Source Number	Source Description	Source Type	Date Assessment Completed	Number of Vulnerability Rankings		Susceptibility Ranking Criteria															
				Highs	Mediums	Lows	Defects	Well/Intake	KCSs	PCSs	Highways/RRs	Pesticides	Septics	Urban Land Cover	Ag Land Cover	Animals	Lagoons	Dry discharges	Sanitary radius	CSDs	Trophic status

**System Type** ☐ C **C=Community; P=Non-Transient, Non-Community; N=Transient**

**EPAID** 0262010 **System Name:** EVERGREEN DRIVE WATER CO

001	BRW	G	8/9/00	1	4	7	L	L	L	M	H	L	M	L	M	L	L		M		
002	BRW	G	8/9/00	1	4	7	L	L	L	M	H	L	M	L	M	L	L		M		

**System Type** ☐ N **C=Community; P=Non-Transient, Non-Community; N=Transient**

**EPAID** 0266180 **System Name:** GRANITE ST GYMNASICS CENTER

001	BRW	G	9/26/00	2	0	7	L	L	L	H	H	L	L			L	L				
-----	-----	---	---------	---	---	---	---	---	---	---	---	---	---	--	--	---	---	--	--	--	--

**EPAID** 0268020 **System Name:** BREAK-AWAY TRUCK STOP

003	BRW	G	11/1/00	4	0	5	H	L	H	H	H	L	L			L	L				
-----	-----	---	---------	---	---	---	---	---	---	---	---	---	---	--	--	---	---	--	--	--	--

**EPAID** 0268030 **System Name:** GRIST MILL RESTAURANT

001	BRW	G	9/26/00	1	0	7	L	L	L	H	L	L	L			L					
002	BRW	G	9/26/00	1	0	8	L	L	L	H	L	L	L			L	L				

**EPAID** 0268040 **System Name:** BOW IRVING

001	BRW	G	9/26/00	3	0	6	L	L	H	H	H	L	L			L	L				
-----	-----	---	---------	---	---	---	---	---	---	---	---	---	---	--	--	---	---	--	--	--	--

**EPAID** 0268120 **System Name:** HAMPTON INN

001	BRW	G	9/26/00	3	0	6	L	L	H	H	H	L	L			L	L				
-----	-----	---	---------	---	---	---	---	---	---	---	---	---	---	--	--	---	---	--	--	--	--

**EPAID** 0268120 **System Name:** COMMUNICAL BUILDING

# What to do with Assessment Reports?

---

- Include *summary* in Consumer Confidence Report
- Identify action items
- Identify need for more information
- Involve stakeholders in planning and implementation